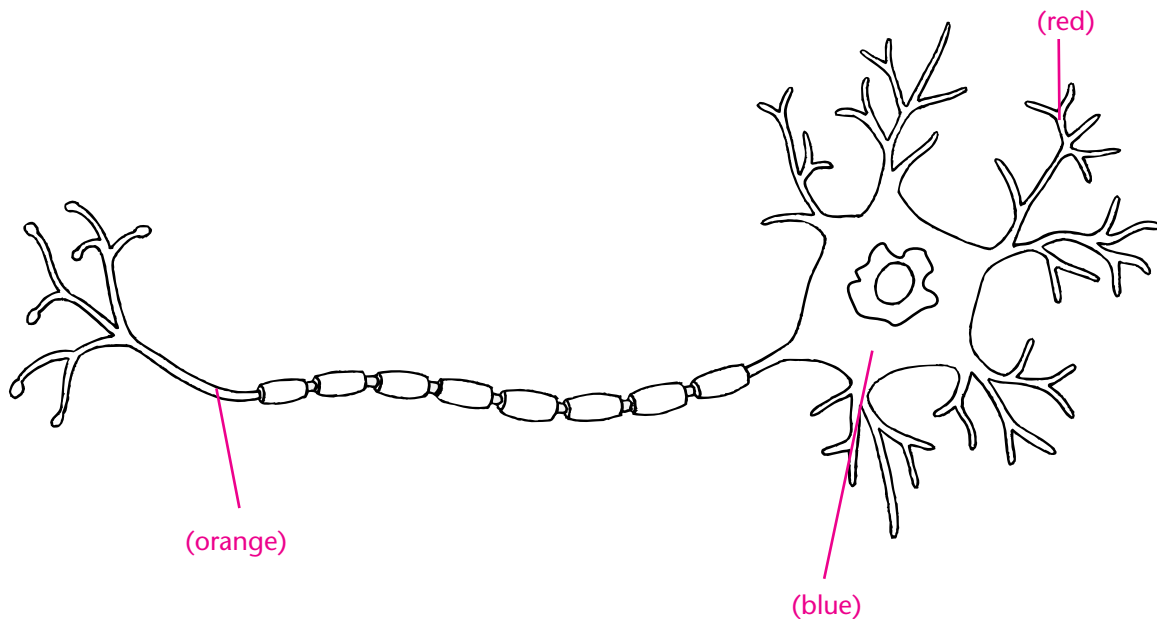


The Neuron

Neurons are the basic units of the nervous system. They transmit electrical signals called impulses.

Color the neuron according to the prompts below

- Color the structures that receive signals from the environment or another neuron red.
- Color the structure that carries an impulse away from the cell body orange.
- Color the cell body blue.



Answer the questions. Circle the correct answer.

1. What is the insulating membrane that surrounds some axons called?

synapse

myelin sheath

2. What are the structures that carry impulses to the cell body called?

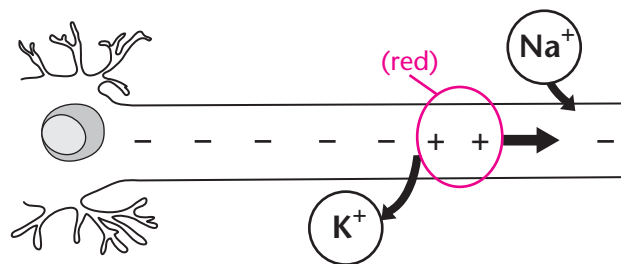
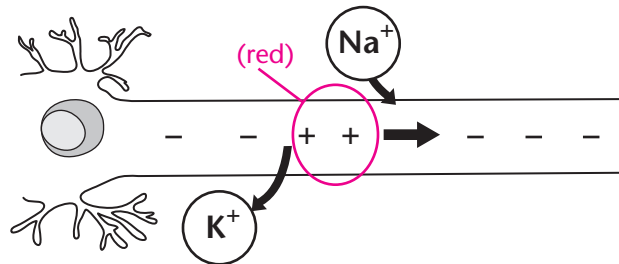
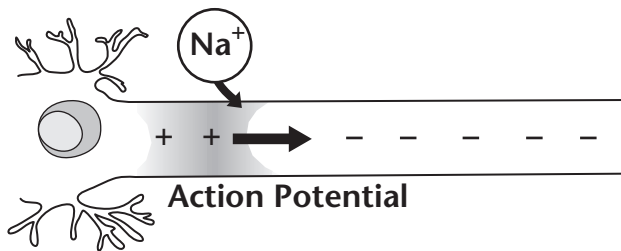
dendrites

axons

Action Potential

A resting neuron has an overall negative charge. Outside the neuron, the environment has a net positive charge. When a neuron is stimulated, positive ions rush into the cell. The area inside the cell becomes temporarily more positive than the outside. This reversal of charges is called a nerve impulse, or *action potential*. As the action potential passes, positive ions flow out of the cell. This restores the net negative charge inside the cell.

Color the action potential in the appropriate diagrams red. One has been done for you.



Use the diagram to answer the question. Circle the correct answer.

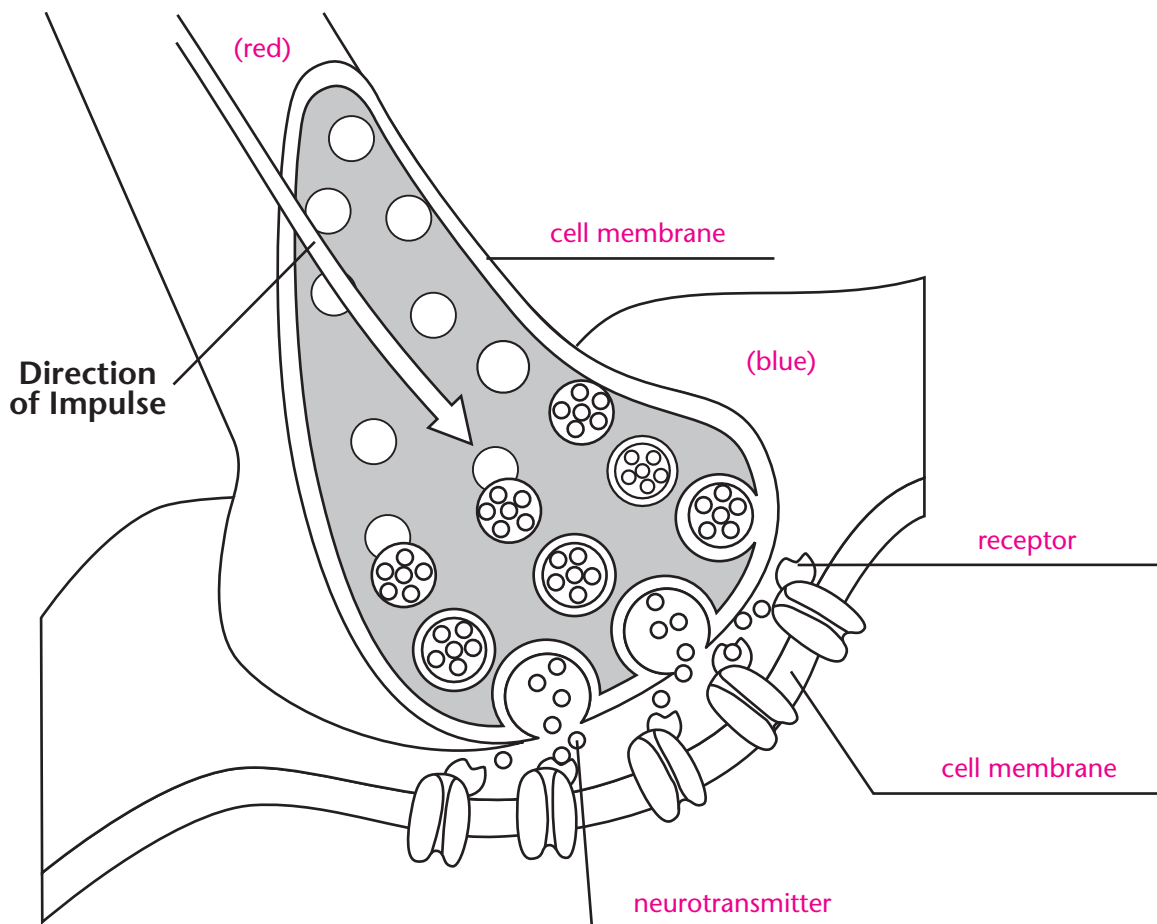
1. In which direction do potassium ions (K^+) flow as the action potential passes?

into the cell out of the cell

The Synapse

A neuron transfers an impulse to another cell at a synapse. The signals are transferred by neurotransmitters. Neurotransmitters are chemicals released by the neuron that cross the space between the cells and bind to receptors on the neighboring cell.

Label one neurotransmitter, receptor, and two cell membranes on the diagram. Then, color the neuron transmitting the signal red. Color the cell receiving the signal blue.



Use the drawing to answer the question. Circle the correct answer.

1. The cell receiving the signal is a neuron. What part of this neuron is pictured above?

dendrite cell body